

IN THE CLAIMS:

Please add new claim 26 (previously presented as a new claim with the reissue application on July 7, 2002) to read as follows:

26. A semiconductor device comprising:

(1) a semiconductor pellet of a quadrilateral shape having bonding pads formed in a main surface thereof, said semiconductor pellet having a first pair of opposed edges extending in a first direction and a second pair of opposed edges extending in a second direction which intersects said first direction, said bonding pads being arranged in said first direction to form a row of bonding pads;

(2) a substrate having a first surface, a second surface opposite to said first surface, electrode pads formed on said second surface and a slit passing through said substrate from said first surface to said second surface and extending in said first direction, said semiconductor pellet being disposed on said first surface of said substrate such that said main surface of said semiconductor pellet is faced to said first surface of said substrate and said row of bonding pads are arranged in said slit in a plane view, said electrode pads including first electrode pads arranged at one side of said slit and second electrode pads arranged at the other side of said slit in said second direction;

(3) bonding wires, each extending from one of said bonding pads of said semiconductor pellet to pass through said slit from said first surface of the substrate to the second surface of the substrate to electrically connecting said electrode pads of said substrate with said bonding pads of said semiconductor pellet via said slit, said bonding wires including first bonding wires connected to said first electrode pads and second bonding wires connected to said second electrode pads;

(4) bump electrodes being disposed on said second surface of said substrate and being electrically connected to said electrode pads of said substrate, said bump electrodes including first bump electrodes electrically connected to said first electrode pads and arranged at said one side of said slit and second bump electrodes electrically connected to said second electrode pads and arranged at the other side of said slit, said first and second bump electrodes being arranged to overlap with said semiconductor pellet in said plane view respectively; and

(5) a resin sealing body sealing said bonding wires and said main surface of said semiconductor pellet exposed from said slit.

39. A semiconductor device comprising:

(1) a semiconductor pellet of a quadrilateral shape having bonding pads formed in a main surface thereof, said semiconductor pellet having a first pair of opposed edges extending in a first direction and a second pair of opposed edges extending in a second direction which intersects said first direction, said bonding pads being arranged in said first direction to form a row of bonding pads;

(2) a substrate having a first surface, a second surface opposite to said first surface, electrode pads formed on said second surface and a slit passing through said substrate from said first surface to said second surface and extending in said first direction, said semiconductor pellet being disposed on said first surface of said substrate such that said main surface of said semiconductor pellet is faced to said first surface of said substrate and said row of bonding pads are arranged in said slit in a plane view, said electrode pads including first electrode pads arranged at one side of said slit and second electrode pads arranged at the other side of said slit in said second direction;

(3) bonding wires, each extending from one of said bonding pads of said semiconductor pellet to pass through said slit from said first surface of the substrate to the second surface of the substrate to electrically connecting said electrode pads of said substrate with said bonding pads of said semiconductor pellet via said slit, said bonding wires including first bonding wires connected to said first electrode pads and second bonding wires connected to said second electrode pads;

(4) bump electrodes being disposed on said second surface of said substrate and being electrically connected to said electrode pads of said substrate, said bump electrodes including first bump electrodes electrically connected to said first electrode pads and arranged at said one side of said slit and second bump electrodes electrically connected to said second electrode pads and arranged at the other side of said slit, said first bump electrodes being arranged in said first and second directions to form a matrix of bump electrodes, said second bump electrodes being arranged in said first and second directions to form a matrix of bump electrodes; and

(5) a resin sealing body sealing said bonding wires and said main surface of said semiconductor pellet exposed from said slit.

52. A semiconductor device comprising:

(1) a semiconductor pellet of a quadrilateral shape having bonding pads formed in a main surface thereof, said semiconductor pellet having a first pair of opposed edges extending in a first direction and a second pair of opposed edges extending in a second direction which intersects said first direction, said bonding pads being arranged in said first direction to form a row of bonding pads;

(2) a substrate having a first surface, a second surface opposite to said

first surface, electrode pads formed on said second surface and a slit passing through said substrate from said first surface to said second surface and extending in said first direction, said semiconductor pellet being disposed on said first surface of said substrate such that said main surface of said semiconductor pellet is faced to said first surface of said substrate and said row of bonding pads are arranged in said slit in a plane view, said electrode pads including first electrode pads arranged at one side of said slit and second electrode pads arranged at the other side of said slit in said second direction;

(3) an insulating layer of a low-elasticity resin formed between said substrate and said semiconductor chip to expose said row of bonding pads;

(4) conductors, each extending from one of said bonding pads of said semiconductor pellet to pass through said slit from said first surface of the substrate to the second surface of the substrate to electrically connecting said electrode pads of said substrate with said bonding pads of said semiconductor pellet via said slit, said conductors including first conductors connected to said first electrode pads and second conductors connected to said second electrode pads;

(5) bump electrodes being disposed on said second surface of said substrate and being electrically connected to said electrode pads of said substrate, said bump electrodes including first bump electrodes electrically connected to said first electrode pads and arranged at said one side of said slit and second bump electrodes electrically connected to said second electrode pads and arranged at the other side of said slit, said first and second bump electrodes being arranged to overlap with said semiconductor pellet in said plane view respectively; and

(6) a resin sealing body sealing said conductors and said main surface of said semiconductor pellet exposed from said pellet.

66. A s miconductor device comprising:

(1) a semiconductor pellet of a quadrilateral shape having bonding pads formed in a main surface thereof, said semiconductor pellet having a first pair of opposed edges extending in a first direction and a second pair of opposed edges extending in a second direction which intersects said first direction, said bonding pads being arranged in said first direction to form a row of bonding pads;

(2) a substrate having a first surface, a second surface opposite to said first surface, electrode pads formed on said second surface and a slit passing through said substrate from said first surface to said second surface and extending in said first direction, said semiconductor pellet being disposed on said first surface of said substrate such that said main surface of said semiconductor pellet is faced to said first surface of said substrate and said row of bonding pads are arranged in said slit in a plane view, said electrode pads including first electrode pads arranged at one side of said slit and second electrode pads arranged at the other side of said slit in said second direction;

(3) an insulating layer of a low-elasticity resin formed between said substrate and said semiconductor chip to expose said row of bonding pads;

(4) conductors, each extending from one of said bonding pads of said semiconductor pellet to pass through said slit from said first surface of the substrate to the second surface of the substrate to electrically connecting said electrode pads of said substrate with said bonding pads of said semiconductor pellet via said slit, said conductors including first conductors connected to said first electrode pads and second conductors connected to said second electrode pads;

(5) bump electrodes being disposed on said second surface of said substrate and being electrically connected to said el ctrode pads of said substrate,

said bump electrodes including first bump electrodes electrically connected to said first electrode pads and arranged at said one side of said slit and second bump electrodes electrically connected to said second electrode pads and arranged at the other side of said slit, said first bump electrodes being arranged in said first and second directions to form a matrix of bump electrodes, said second bump electrodes being arranged in said first and second directions to form a matrix of bump electrodes; and

(6) a resin sealing body sealing said conductors and said main surface of said semiconductor pellet exposed from said slit.

80. A semiconductor device comprising:

(1) a semiconductor pellet having bonding pads formed in a main surface thereof, said bonding pads including first bonding pads for signals and second bonding pads for a power source;

(2) a substrate having a first surface, a second surface opposite to said first surface, electrode pads formed on said second surface and a slit passing through said substrate from said first surface to said second surface, said electrode pads including first electrode pads for signals and a second electrode pad for a power source, said semiconductor pellet being disposed on said first surface of said substrate such that said main surface of said semiconductor pellet is faced to said first surface of said substrate and said bonding pads are arranged in said slit in a plane view;

(3) an insulating layer of a low-elasticity resin formed between said substrate and said semiconductor chip to expose said bonding pads;

(4) conductors, each extending from one of said bonding pads of said semiconductor pellet to pass through said slit from said first surface of the substrate to the second surface of the substrate to electrically connecting said electrode pads with said bonding pads of said semiconductor pellet via said slit, said conductors including first conductors connecting said first bonding pads with said first electrode pads for said signals respectively and second conductors connecting said second bonding pads with said second electrode pad for said power source;

(5) bump electrodes being disposed on said second surface of said substrate and being electrically connected to said electrode pads of said substrate, said bump electrodes including first bump electrodes electrically connected to said first electrode pads for said signals respectively and second bump electrodes electrically connected to said second electrode pad for said power source; and

(6) a resin sealing body sealing said conductors and said main surface of said semiconductor pellet exposed from said slit, wherein an area of said second electrode pad for said power source is larger than that of each of said first electrode pads, and wherein said second bump electrodes are disposed on said second electrode pad for said power source and are in electrical common connection to said second electrode pad.